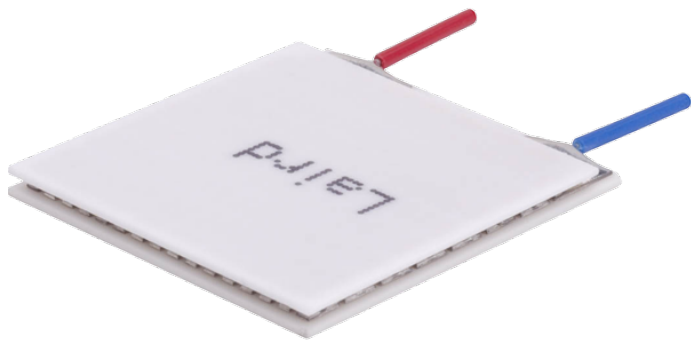


### UltraTEC™ UTX Series Thermoelectric Cooler

The UTX8-12-F2-2525-TA-W6 is a high-performance thermoelectric cooler that is assembled with advanced thermoelectric materials and can boost cooling capacity by up to 10%. The UltraTEC UTX Series features a higher thermal insulating barrier when compared to standard materials creating a maximum temperature differential ( $\Delta T$ ) of 71.7 °C at  $Q_c = 0$ . It has a maximum  $Q_c$  of 68.5 Watts when  $\Delta T = 0$ .

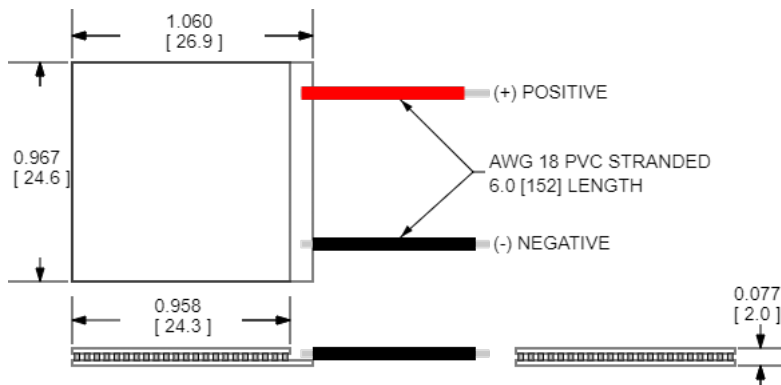


### Features

- High heat pump density
- Precise temperature control
- Reliable solid-state operation
- No sound or vibration
- DC operation
- RoHS-compliant

### Applications

- Spot Cooling for Industrial Lasers & Optics
- Thermoelectric Cooling for Projection Lasers

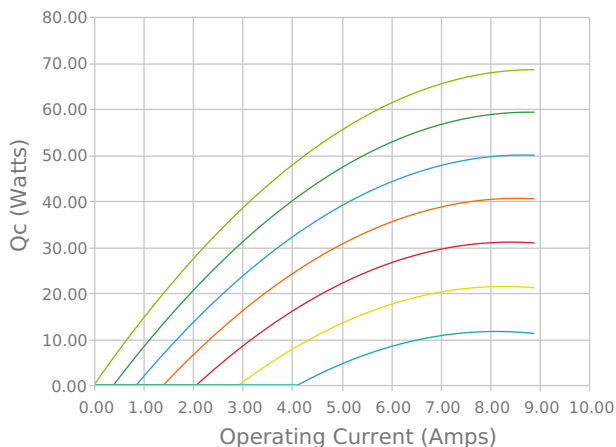


CERAMIC MATERIAL:  $Al_2O_3$   
SOLDER CONSTRUCTION: 138°C, BiSn

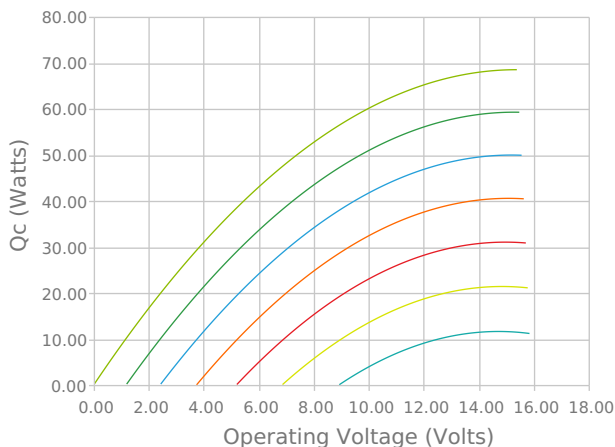
INCHES [MM]

## ELECTRICAL AND THERMAL PERFORMANCE

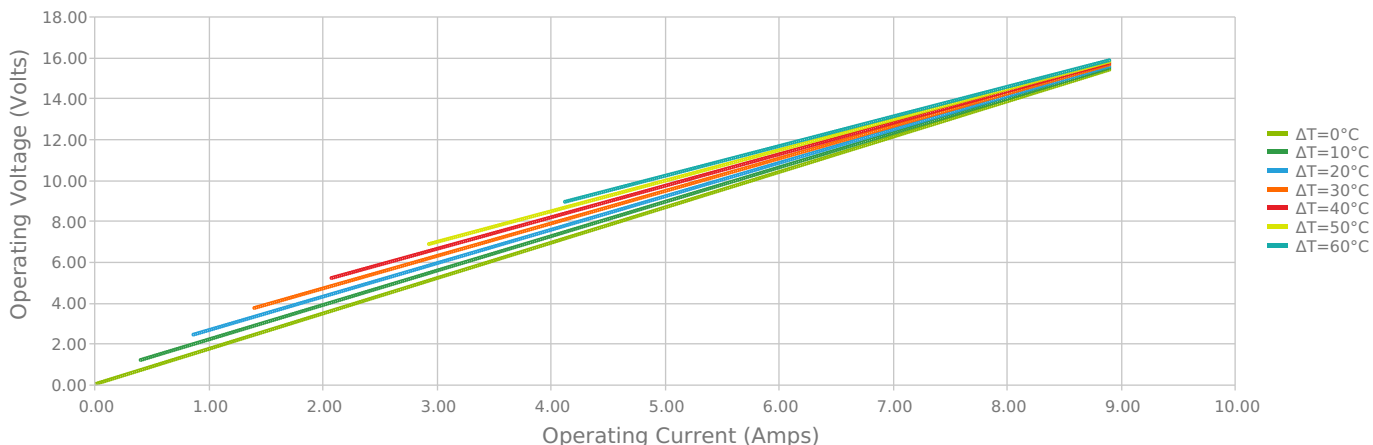
Heat Pumped at Cold Side  
 $T_{hot} = 27^\circ C$



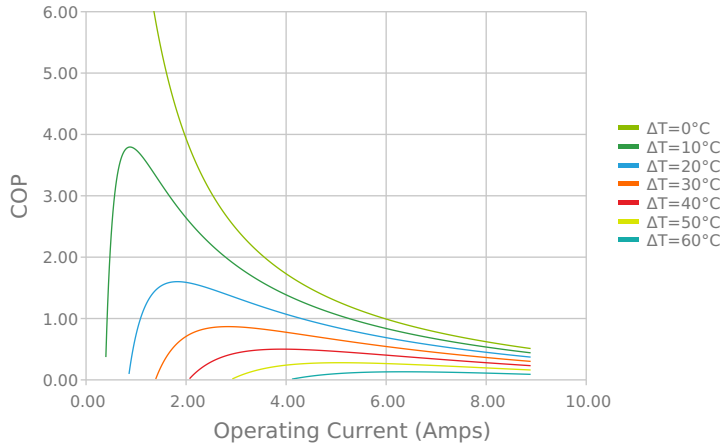
Heat Pumped at Cold Side  
 $T_{hot} = 27^\circ C$



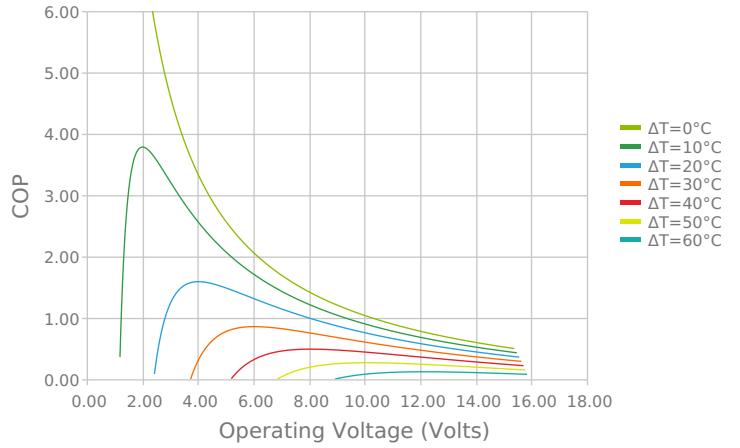
Current vs Voltage (I vs V)  
 $T_{hot} = 27^\circ C$



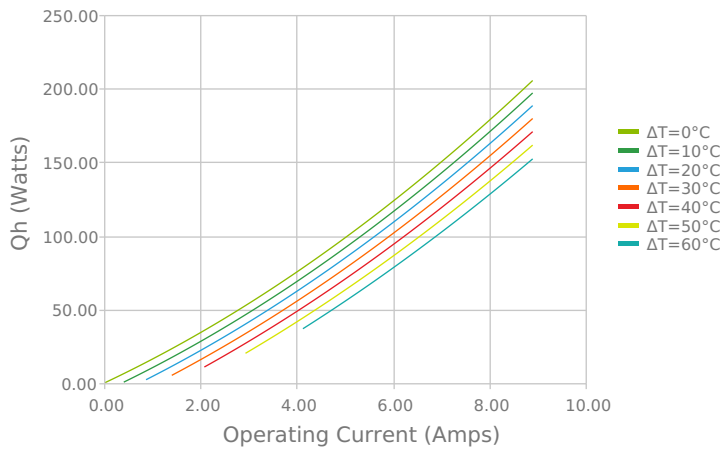
Coefficient of Performance (COP =  $Q_c/P_{in}$ )  
 $T_{hot} = 27\text{ }^{\circ}\text{C}$



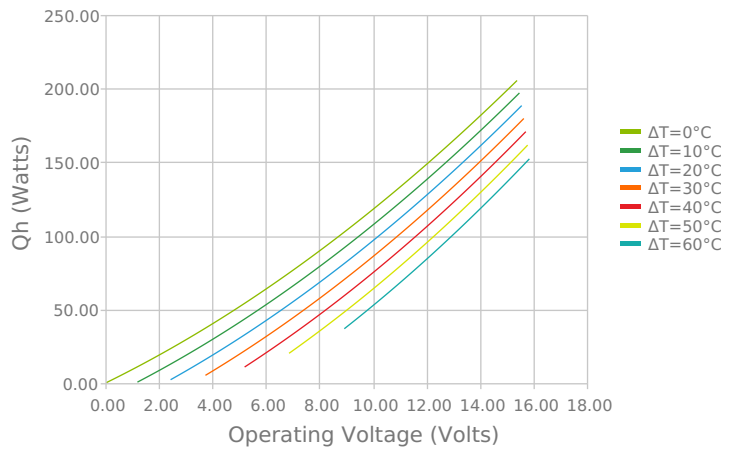
Coefficient of Performance (COP =  $Q_c/P_{in}$ )  
 $T_{hot} = 27\text{ }^{\circ}\text{C}$



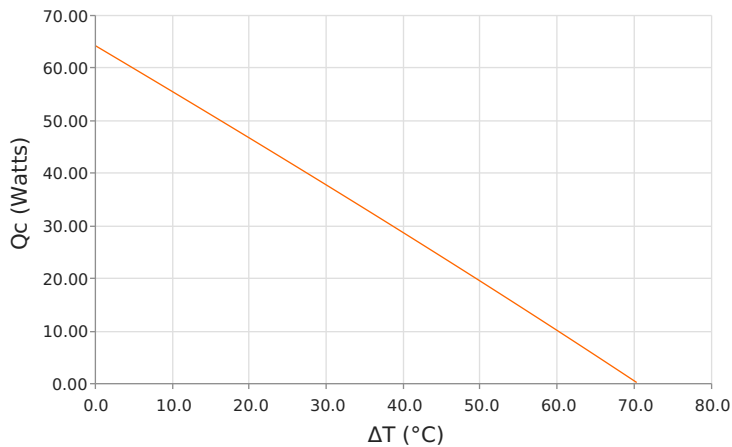
Total Heat Dissipated at Hot Side ( $Q_h = Q_c + P_{in}$ )  
 $T_{hot} = 27\text{ }^{\circ}\text{C}$



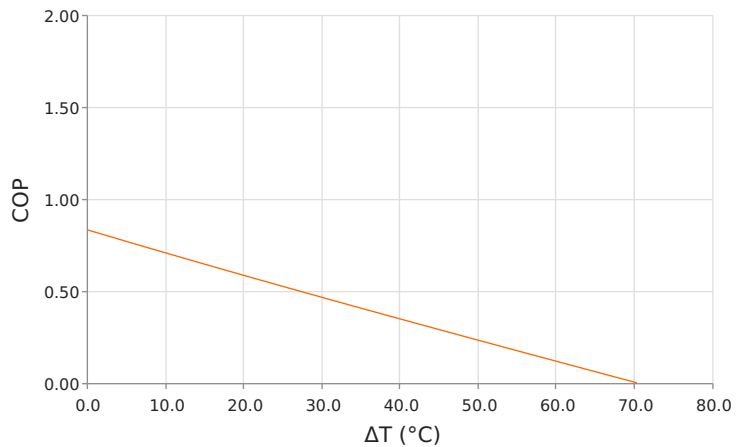
Total Heat Dissipated at Hot Side ( $Q_h = Q_c + P_{in}$ )  
 $T_{hot} = 27\text{ }^{\circ}\text{C}$



Heat Pumped at Cold Side ( $Q_c$ )  
 $T_{hot} = 27\text{ }^{\circ}\text{C}$  | Current = 6.7 Amps



Coefficient of Performance (COP =  $Q_c/P_{in}$ )  
 $T_{hot} = 27\text{ }^{\circ}\text{C}$  | Current = 6.7 Amps



## SPECIFICATIONS\*

### Hot Side Temperature

### Qcmax ( $\Delta T = 0$ )

### $\Delta T_{max}$ ( $Q_c = 0$ )

### I<sub>max</sub> (I @ $\Delta T_{max}$ )

### V<sub>max</sub> (V @ $\Delta T_{max}$ )

### Module Resistance

### Max Operating Temperature

### Weight

	27.0 °C	35.0 °C	50.0 °C
Qcmax ( $\Delta T = 0$ )	68.5 Watts	70.4 Watts	73.7 Watts
$\Delta T_{max}$ ( $Q_c = 0$ )	71.7°C	74.8°C	80.4°C
I <sub>max</sub> (I @ $\Delta T_{max}$ )	7.9 Amps	7.9 Amps	7.8 Amps
V <sub>max</sub> (V @ $\Delta T_{max}$ )	14.6 Volts	15.1 Volts	16.2 Volts
Module Resistance	1.73 Ohms	1.80 Ohms	1.95 Ohms
Max Operating Temperature	80 °C		
Weight	7.0 gram(s)		

\* Specifications reflect thermoelectric coefficients updated March 2020

## FINISHING OPTIONS

Suffix	Thickness	Flatness / Parallelism	Hot Face	Cold Face	Lead Length
TA	1.956 ±0.025 mm 0.077 ± 0.0010 in	0.025 mm / 0.025 mm 0.001 in / 0.001 in	Lapped	Lapped	152.4 mm 6.00 in

## SEALING OPTIONS

Suffix	Sealant	Color	Temp Range	Description
	None			No sealing specified

## NOTES

1. Max operating temperature: 80°C
2. Do not exceed I<sub>max</sub> or V<sub>max</sub> when operating module
3. Reference assembly guidelines for recommended installation
4. Recommended to be used with a liquid heat exchanger on the hot side

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